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GOVERNMENT OF INDIA

MINISTRY OF INDUSTRIAL DEVELOPMENT AND COMPANY AFFAIRS

(Department of Industrial Development)

REPORT

OF THE

COMMITTEE ON FOREIGN COLLABORATION

May 1967

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The Government of India in their Office Memorandum No. IP&FC-5(1)/66, dated the 19th February, 1966 constituted a Committee, with composition as indicated below, to recommend to Government some guide lines regarding the utilisation of indigenous know-how and the types of cases in which foreign collaboration may be allowed.

Composition

1.	Dr. A. Ramaswami Mudaliar	*Chairman*
2.	Dr. S. Hussain Zaheer (Dir. Gen. CSIR)	*Member*
3.	Shri P. C. Kapoor (Director General, Technical Development)	*Member*
4.	Shri K. J. George (Director, Ministry of Industry)	*Member-Secretary*

2. *Terms of Reference.*—The terms of reference were :

(a) to examine the extent to which, at the present stage of our economic development, import of technical know-how from abroad can be dispensed with ;

(b) to examine the general conditions subject to which indigenous know-how can be deemed to be capable of commercial exploitation ; and

(c) to suggest general guide lines regarding the type of cases in which foreign collaboration may be allowed.

Though the question of the adequacy or otherwise of the encouragement being given to the development of indigenous know-how is not covered by the terms of reference, as this is a connected issue, the Committee has given some thought to this and has also made some recommendations in this regard.

3. *Number of Meetings etc.*—The Committee held seven meetings and met representatives of various Chambers of Commerce and Industry in Calcutta, Bombay and Madras. Written Memoranda were also received from some Associations and individuals. A list of these is given at the Appendix to this Report.

4.1. *Ingredients of know-how.*—Before proceeding to an examination of the issues involved, it is desirable to define the essential ingredients constituting "know-how". In essence, "know-how" consists of—

(a) process know-how or product design ;
(b) design and engineering of the plant ;
(c) erection and commissioning of the plant.

It may often be the case that in respect of a particular product, one or more constituents of the "know-how" may be indigenously available. While considering problems relating to know-how, it is necessary that we should have a clear concept as to whether only a particular ingredient of the know-how or whether all the main aspects are being considered. The observations in paras 4.2 to 4.5 below are essentially meant to apply to the process know-how or product design only.

4.2 With reference to the first of the three terms of references, while it is desirable and necessary that indigenous know-how should be developed and utilised to the fullest extent practicable, no country, leave alone a developing country like India, can afford to close its doors to technological developments in the rest of the world. In fact, one of the most remarkable developments in the more industrialised countries has been the increase of international exchange of know-how. Consequently, research and development—and production itself—has, to some extent, become more and more specialised in each country. Britain, which has sometimes been referred to as the home of the machine tool industry, currently imports more than Rs. 40 crores of machine tools in an average year and she exports comparable quantities to other highly industrialised countries such as France and the U.S.A. This unrestricted exchange and competition, both at home and abroad, keeps the machine tool manufacturers in each country keenly conscious of the need for constant research and development. Each manufacturer is compelled, as a condition of survival, to introduce still better designs and production techniques and so to improve quality, delivery and customer service, while keeping prices to the minimum.

4.3. *Technological gap between India and the more developed countries.*—There is today a big gap between India and the more developed countries in the field of technical know-how—a gap which has to be narrowed over a period of time by (a) adequate development of indigenous know-how and (b) import, in suitable cases, of foreign know-how and the building up of further know-how based on the imported know-how. Our investment in research and development today is comparatively very small. We are not as yet generating or investing even a small fraction of the resources required to keep pace with the research and development which is taking place in the more industrialised countries. In the context of our present technological gap, industries may be categorised into two broad groups (a) industries already well-established in India and (b) the newer and more sophisticated industries. In the case of the former category, while a view may be taken that we should be independent of foreign know-how, it is at the same time necessary that these industries should not blind themselves to the research that is being conducted abroad. There may be occasions when important developments may render it necessary to import technology even in these fields. In the case of the newer and more sophisticated industries, the major effort so far has been concentrated in establishing manufacturing capacity. For these newer and more sophisticated industries, a fairly liberal import of know-how initially, combined with a research effort on the re-inforcement of existing technology and its adaptation to Indian conditions, would, in the Committee's view, be the appropriate course to follow.

4.4 *Need for positive approach to the problem of import of know-how.*—The Committee would, therefore, like to emphasise the need for a positive approach to the problem of import of foreign process know-how. India's technical base is as yet slender. On the other hand, our industrial base is large and fairly diversified. If we adopt a restrictive approach to foreign technology without at the same time ensuring that indigenous technology is able adequately to serve the industrial development of the country, economic growth would be hampered. In fact, it has been often urged that a liberal import of foreign know-how is an essential part of a programme to promote indigenous know-how, and that the aim should not be self-sufficiency in technical know-how but an international exchange of indigenous and foreign know-how.

4.5 The Committee's conclusion, therefore, on this aspect is that import of know-how, particularly of process know-how or product design, should continue to be allowed on a discriminating basis, so that Indian industry is able to keep in touch with the world technological mainstream. After importing foreign technology wherever this is necessary, it should be the endeavour of Indian research and development to build and develop it to suit Indian conditions, Indian environments and Indian raw material availablity. This in fact is what Japan has done with great advantage to her economy.

5. *Import of know-how has accelerated industrial development of India.*—The following have often been cited as some of the main disadvantages following from a liberal import of foreign know-how :

(a) There is a tendency to purchase foreign know-how indiscriminately.

(b) Foreign collaboration agreements often entail purchase of machinery and equipment from abroad, at high prices.

(c) Foreign collaboration makes us dependent on imports of raw materials and components. Specifications for these are often so laid down that they restrict purchases from alternative and cheaper sources.

(d) While enabling us to accelerate the tempo of industrialisation, foreign collaboration has killed indigenous initiative.

It may be that there may well have been individual cases in the past in respect of which some of these allegations may be valid, but with greater experience on the part of Indian entrepreneurs, there is less risk of such instances repeating themselves. Apart from this, taking a broader view, there will probably be no two opinions on the issue that industrial development in India during the past decade or two has been greatly accelerated by the importation of foreign know-how. Every case of foreign collaboration requires Government's prior approval and this is normally given after a detailed scrutiny. Where the entrepreneur is himself new and the project involves large investment there may be a case for closer governmental scrutiny. In any case, there is no ground at all for taking the extremist view that import of foreign know-how should be dispensed with.

6. *Different forms of obtaining technical know-how—comparative merits.*—The different ways of importing foreign technical know-how may be categorised as follows :—

(i) Through outright purchase of design, know-how, etc.

(ii) By engaging foreign technicians as direct employees.

(iii) Through royalty or licensing agreements.

(iv) Through foreign capital participation. In many cases, a combination of these is also involved.

The relative merits of these different methods of importing know-how have often been the subject of discussion.

Arrangement (i) is appropriate where the product or process is long-established and is unlikely to be overtaken in the near future by technological obsolescence. From Government's point of view, this arrangement has the advantage that the foreign exchange outlay in obtaining the know-how is pre-determined. Provided the product or process selected under this arrangement is chosen with care, this could be a satisfactory arrangement and can also serve as an incentive to self-sufficiency in the development of indigenous substitutes or processes.

Arrangement (ii) is somewhat limited in scope.

Arrangement (iii) has the advantage of the feature of "pay as you earn", since payment for know-how is only made after the product has been successfully produced. It has also often been stated that a royalty arrangement provides an incentive to the licensor to ensure that the licensee goes into full production as quickly as possible, so that earnings by way of royalty are enhanced.

Arrangement (iv), it is generally recognised, has many features to commend it, the first being that know-how payment only commences when the Indian venture becomes profitable and makes payment of dividends. Further, the overseas collaborator is directly interested in the progress of the Indian venture and can be expected to take an active interest to ensure that progress according to planned programme takes place. It has also been held that transmission of know-how is more complete in the case of joint ventures involving financial participation than in the other types of collaboration. On the whole, in all industries where substantial import of capital goods is involved and where Government's policy allows foreign capital participation, joint ventures involving equity participation would appear to be most beneficial from the country's point of view.

7.1. *Indigenous know-how versus imported know-how.*—A primary question which of late has been increasingly arising in dealing with the proposals for import of foreign know-how is whether there is an alternative indigenous technology available to the entrepreneur. Some of the basic questions which have to be taken into account in assessing the suitability of indigenous know-how are :

(i) Has the indigenous know-how been commercially processed or is at least capable of commercial exploitation within a reasonably short period?

(ii) Is the know-how economical from the point of view of the investor and from the national point of view ?

(iii) Is it likely to be made available to the new entrepreneur or is the know-how available only to another existing manufacturer, who is reluctant to part with the know-how to a competitor ?

7.2 *Existing procedures for examining foreign collaboration.*—Under the existing procedures, both the Directorate General of Technical Development and the Council of Scientific & Industrial Research are associated with the consideration of applications for approval of foreign collaborations. The CSIR normally brings to the notice of the authorities concerned the existence of indigenous know-how which has either been developed in one of the National Laboratories or is available elsewhere with existing manufacturers. It has been alleged before the Committee by various Chambers of Commerce & Industry that in many cases, CSIR has not been taking a broad view regarding the availability of indigenous know-how, and that even in the cases where the indigenous know-how is restricted to the laboratory stage or its commercial possibilities have not been fully proved, foreign collaborations have not been recommended, with the result that entrepreneurs have had to give up their schemes, resulting in continued import of the product; instances were also cited where entrepreneurs, after attempts to utilise the indigenous know-how, had to give up the projects as not being commercially feasible.

7.3 *Need for prior discussion between DGTD & CSIR before a recommendation is made to the Foreign Agreements Committee.*—It is of course necessary that indigenous technology, which is capable of commercial exploitation, should be fully utilised. Both at the licensing stage and the Foreign Agreements approval stage, a scheme based on indigenous know-how should normally be given preference to one based on imported know-how. But while insisting on the utilisation of indigenous know-how to the exclusion of imported know-how, it is important that adequate consideration should be given to the issues raised in para 7.1. The Committee would recommend that in all cases where CSIR is of the view that owing to the availability of indigenous know-how, no foreign collaboration should be allowed, it should be a convention that there should be a prior discussion between the concerned officers of the DGTD and of the CSIR, before a recommendation is made to the Foreign Agreements Committee, instead of as at present, both the agencies expressing their views independently. If, at the normal operating levels, there is a difference of opinion between the two organisations, a discussion should be arranged at the level of the DGTD and DG, CSIR, if necessary, so that an agreed recommendation is made to the Foreign Agreements Committee. Care should, however, be taken to ensure that such discussions do not lead to avoidable delays in the finalisation of the cases. In case of difference of opinion between the CSIR and the DGTD, the case should promptly be brought up before the Foreign Agreements Committee.

7.4 In the context of the issues raised in the foregoing paragraphs, the Committee would like to refer to certain aspects of the existing procedures for the scrutiny of applications for approval of foreign collaborations. Applications are scrutinised with a view to seeing whether any indigenous know-how is available and whether the terms proposed are reasonable. No consideration is ordinarily given to the aspect whether the particular technology sought to be imported is the most suitable to our requirements, having regard to the scale of production, raw material availability etc. There is at present no expert agency with adequate knowledge whose views are before Government while taking decisions. To fill this lacuna, the Committee would make the following recommendations :

Constitution of Technical Research Committees

Pursuant to the 'First Get Together' on Research and Industry organised by the Council of Scientific & Industrial Research in December, 1965, it was agreed that Technical Research Committees consisting exclusively of scientists and technologists should be constituted by the Ministry of Industrial Development & Company Affairs for each Development Council, in consultation with the C.S.I.R. In the case of industries which are not covered by any Development Council, CSIR, in consultation with the Ministry of Industrial Development & Company Affairs, was to take steps to constitute similar Technical Research Committees. It will be one of the functions of these committees to demarcate areas where indigenous know-how capable of commercial exploitation has been developed and where import of know-how is necessary.

These Technical Committees will also indicate, in general, the type of design and engineering services which could normally be undertaken in India. To avoid repetitive import of know-how, these Committees could also identify industries in which, rather than allow individual parties to import know-how, it would be more appropriate to allow the know-how to be imported by a consultancy organisation.

which could, after importing the know-how make it available to indigenous entrepreneurs. These Committees should have available to them information not only relating to indigenous know-how available in the country, but also available information about the types of know-how developed elsewhere in the world, in the main fields with which they are concerned. Each National Laboratory could be made responsible for compiling this information in its own field and making it available to the appropriate Technical Committee. With the help of this information, the Technical Committees could also undertake studies, wherever appropriate, of the comparative merits of different types of know-how in the light of Indian conditions and raw material availability.

Copies of studies prepared by these Technical Committees will be received in the Secretariat of the Foreign Agreements Committee in the Ministry of Industrial Development and Company Affairs and made available to DGTD or other technical authorities concerned and to the Administrative Ministries concerned. While applications for foreign collaboration are examined either by the Foreign Agreements Committee or by the individual Ministries in the exercise of delegated powers, adequate consideration should be given to the views expressed by the Technical Research Committees in their reports. It is, however, not intended that consideration of individual cases should be held up for ascertaining the view of the Technical Research Committees. In cases where the Technical Committees have already expressed a view due consideration should be given to this while taking a decision.

8.1. *Limitations of indigenous know-how. Need for design and engineering consultancy service and provision of risk capital.*—It was urged before the Committee by representatives of Industry that CSIR know-how is usually based on laboratory studies and in some cases on pilot plant work but is mostly lacking in design and engineering data. A major investment in industrial research is constituted by pilot plant design and development activities combined with process and product development data and market studies which are essential for the successful commercial operation of an industrial plant. It was urged before the Committee that one of the reasons why CSIR know-how has not been readily acceptable to Indian entrepreneurs has been the fact that this know-how has not been tried on a commercial scale and is not accompanied by any economic guarantees. Since a large number of Indian entrepreneurs do not yet have the financial capacity to take risk and since the CSIR know-how is usually not offered through any project engineering firms who may be able to give the turnkey job, there is obvious reluctance on the part of entrepreneurs to invest in new and untried processes. In respect of some of the know-how licensed by CSIR, Indian entrepreneurs have had to carry out developmental project engineering and feasibility studies which have involved considerable expenditure of time and money and in certain cases have led to commercial losses. It was urged before the Committee by one association of the industry that to get over these difficulties what is essentially required is an independent Corporation such as the National Research Development Corporation which should ensure design and engineering services and provide the risk capital for the entrepreneurs taking up commercial development of know-how based on Indian research. The Corporation should be prepared to compensate the entrepreneur for any losses sustained on uneconomic and untried processes.

8.2 The representative of the CSIR on the Committee while agreeing that part of the criticism from industry was not without foundation and was justified, affirmed that several steps had been taken by the CSIR in overcoming these difficulties. In this connection attention was drawn to the setting up of the Central Design & Engineering Organisation at the CSIR Headquarters which, while on the one hand, advises the laboratories on the technical and commercial feasibility of the researches carried out on pilot plant level, at the same time undertakes project design and engineering jobs on CSIR process know-how. It was also prepared to undertake turnkey jobs for industry with the usual commercial guarantees. It was emphasised that the cases where CSIR researches had failed to materialise at a commercial level were not as many as were made out and the situation had greatly improved with better contacts with industry. Since representatives of industries were associated with the Scientific Advisory Committees and Executive Councils of the laboratories, the incidence of non-commercial researches being offered for exploitation was greatly minimised. For pilot plants involving an investment of above Rs. 5 lakhs, the data was scrutinised jointly by the representatives of the CSIR, Industry and DGTD. Every effort was made to invite the industry to participate and share in research and development at various stages. However, the representative of the CSIR readily agreed that much more needs to be done to generate confidence in the industry for successful utilisation of indigenous know-how. It was felt that the National Research Development Corporation had a vital role to play in generating confidence in industry and providing risk and development capital besides its present activity of licensing of the know-how developed in the CSIR and other Government laboratories.

9. *Indigenous know-how and Role and functions of National Research Development Corporation.*—While considering the utilisation of indigenous know-how, the committee discussed the present working and role of the National Research Development Corporation and the reasons why it had not so far been able to fulfil to any significant extent its role of promoting the development of industrial research to the commercial stage. It was appreciated that with the resources placed at its disposal perhaps the National Research Development Corporation could not have done much more. The Committee felt that in order to enable it to play the role for which it was set up and which is clearly laid down in its Articles of Association, it was necessary that the National Research Development Corporation should *inter-alia* take the following steps :

(i) The National Research Development Corporation should have a machinery, either of its own or in collaboration with consulting engineering or design engineering firms, for proper screening of the processes, patents and inventions referred to it. It should advertise only those processes which are *a priori* technically and commercially sound. The non-technical notes issued by the National Research Development Corporation should be more realistic in regard to the capital and recurring investment on the researches.

(ii) The National Research Development Corporation should develop expertise and draw parameters on a scientific basis for the settling of terms for commercial exploitation of researches. These should be based on a technological and economic evaluation of the know-how offered, taking into consideration imports, exports, production, licensed capacity, turnover and the profitability of the invention offered for commercial exploitation.

(iii) The National Research Development Corporation should place greater emphasis on developmental activity and should sponsor industrial and commercial development of process know-how either with (i) its own resources, or (ii) with the participation of industry, or (iii) with the joint participation of research organisations, industry and the National Research Development Corporation. While inviting the industry and the CSIR to share and participate in the developmental activity, it should be prepared to meet the risk. However, before any investment is considered, the National Research Development Corporation should get the project examined and assessed for its technical and economic feasibility by a consulting engineering organisation, either of its own or by an outside project engineering firm.

(iv) The National Research Development Corporation should approach the Government for adequate financial provision for an enhanced investment in risk capital to enable it to meet the expenditure for the 'first' prototype or commercial plants. This would be the best way to generate confidence in industry to utilise indigenous know-how and is widely adopted even by the United Kingdom and other advanced countries. For this purpose, the share capital of the National Research Development Corporation should be substantially raised and the powers of the National Research Development Corporation to write off the losses stepped up.

10. *Need for liberal approach regarding import of process know-how or product design.*—As indicated earlier, it would be certainly worth while to import foreign process know-how or product design where this is not indigeonusly available. Protracted discussions about

the actual quantum of payments for this part of the know-how may not be worth while. The Committee would recommend that a fairly liberal approach should be brought to bear in sanctioning payments relating to process know-how or product design only. Delays in the implementation of a scheme on account of minor differences in the amounts asked for may in the long run only result in greater national loss from the delay in the implementation of schemes.

11. *Time taken in the clearance of collaboration cases.*—It was urged before the Committee that the existing procedures for consideration of foreign collaboration cases often take an unduly long time. This is not a matter falling within the terms of reference of this Committee and accordingly no detailed study regarding this has been undertaken by the Committee. It appears that, according to the existing procedures, a major part of the applications fall within the category where powers have been delegated to Ministries to accord approval for the collaboration cases. There is no effective central machinery for keeping a watch on the speedy disposal of all applications received in the individual Ministries. From many points of view, it appears to the Committee that there would be some advantage in arranging for a Central unit in the Ministry of Industrial Development & Company Affairs which should be responsible for bringing to the notice of the Foreign Agreements Committee cases which have remained undisposed for a period of 3 months from the date of receipt of the application. By a Press Note, applicants might be advised to send applications for foreign collaboration in duplicate—one copy direct to the Administrative Ministry concerned and the other to the Central Cell in the Ministry of Industrial Development & Company Affairs. Cases which remain undisposed for a period of more than 3 months should, it is suggested, be automatically brought up before the Foreign Agreements Committee for consideration and decision by them, even if they fall within the purview of the delegated powers of the Ministries.

12. *Duration of technical collaboration agreements.*—In the earlier collaborations, normally the duration has been fixed for 10 years and as a rule one further extension of, say 5 years or so, appears to have been given in most cases. Of late, the policy appears to have been to limit the initial period of collaboration, normally to a period of 5 years. The Committee would like to emphasise that any rigid approach in this matter would not be appropriate. In the case of industries where rapid technological changes take place and the investments involved in research and development are very substantial, there may be a case for the original agreement itself being allowed for a period of 10 years. What the Committee would like to stress is that no rigid rule should be followed in this matter, that a period ranging from 5 to 10 years from the commencement of production should be the normal duration of technical collaboration agreements and that the duration of the original agreements and subsequent extensions, if any, should be considered on the merits of each case.

13.1 *Avoidance of repetitive import of technology.*—One point to which the Committee has given considerable thought is the problem of the need for repeated import of the same technology. The issue essentially is whether in cases where a number of collaborations, say 5 or 6, have already been approved in a particular field of industry, what steps could appropriately be taken to restrict further import of the know-how. The Committee has had detailed discussions with various Chambers of Commerce on this issue. It is neither practicable nor desirable to resort to any sort of compulsion on existing manufacturers to part with their know-how to their competitors. It was also pointed out to the Committee that in many cases, and particularly so in the case of joint ventures, the foreign collaborator may be reluctant to part with his know-how to a competing firm seeking to establish production in India. In the case of an existing unit, the know-how which could be passed on by it to a new entrepreneur will normally be only the process know-how of the product design. The design and engineering services cannot ordinarily be given by the industrial unit. Instead of asking the existing unit to part with its know-how to a possible competitor, the more appropriate course would be to consider the likelihood of an existing unit giving the process know-how or product design to a consultancy firm, on the basis of a negotiated agreement. This could be either on the basis of an outright purchase of know-how or on the basis of sharing of the income accruing as a result of future licensing of the know-how. In cases where an existing unit is prepared to give its know-how to a new unit, this should of course be welcomed.

13.2. *Fiscal incentives for passing on know-how.*—To encourage the transmission of know-how, it is also recommended that some fiscal incentives in the shape of tax relief on the royalties earned by Indian Companies which pass on their know-how to others should be provided.

14.1. *Need for greater stress on research and development.*—At present in India, investment in research and development is primarily by Government. While this investment from public resources on scientific and technological research needs to be further augmented to step up the pace of industrial development, there is need for the industry to take more positive measures to set up research and development facilities of their own. The efforts by the industry hitherto in this direction have been inadequate. However, with the increasing tempo of industrial development, the shortage of foreign exchange and the need to make the country self-reliant and, more so, to enable the country to be in the forefront of advance in at least some fields of industry, it is essential that research and development activity within the industry is stepped up. Industrial research undertaken by the industry has the advantage of growing out of the direct needs of the industry and of immediate applicability for fruitful economic returns. While the responsibility for organising industrial research should primarily rest with industry itself, there is every need for the Government to provide incentives and create the right economic climate and environments to promote investment by industrial units in research and development. The Committee is aware that at present expenditure on research is exempt from income tax. The Committee, however, feels that the Government should go much further and would commend the suggestion made by the industry that they should be given corporate tax relief to the extent of double the expenditure on research and development. The Committee would also recommend a liberal treatment in regard to provision for foreign exchange for import of essential instruments and equipment for research laboratories.

14.2. *Role of trade associations of industry.*—Industrial Organisations and Trade Associations of industry can play a very useful role in establishing research organisations in their respective sectors of industry and promoting better communications between universities, State sponsored research establishments and industrial firms. In the industrially advanced countries, well-established trade associations set up research wings of their own which conduct the service of collecting the research problems of their constituent units and of sponsoring them in the universities or research establishments. Alternatively, the associations set up research laboratories of their own, managed under the advice of competent scientists from industry, universities and research establishments. The Co-operative Research Associations of industry have also played a useful role in utilising the limited resources of technical manpower, equipment, instruments and library facilities for a community of industrial units, who would otherwise not be able to set up research facilities of their own. At times, they have also functioned as channels for communication of superior know-how to their members and also encouraged sponsored research on behalf of individual units. Co-operative research by industry in India is at present mostly confined to agro-based industries and much more needs to be done to draw in the larger and more advanced sectors of industry into setting up research institutes for individual industries or groups of industries.

The Committee recommends a liberal policy in encouraging and promoting research associations, who should be allotted a larger share of public resources by the Government through the CSIR.

15.1. *Need for further development of design & consultancy services.*—While approving foreign collaboration terms it is important that it should be ensured that, as far as practicable, indigenous design and consultancy services are utilised to the fullest practicable extent. Though Indian industry has developed substantially during the past decade or two, design and consultancy organisations have not kept pace. Substantial gaps do still exist in the consultancy services available in the country. It is of importance that these gaps should be identified and adequately filled. The Committee is aware that the Planning Commission has set up another Committee to go into these aspects. Without, therefore, going into a detailed analysis of our requirements in this field, this Committee would merely recommend that speedy steps should be taken for the establishment of adequate consultancy services in the country, so that the need for importing services in this field is minimised.

15.2 The twin aspects of research and development and of design and engineering underscore an important deficiency in our industrial development plans. We have till now placed emphasis on the physical appertinances of the productive apparatus such as factory building, civil works, plant and machinery, operating personnel, raw materials, components, etc. But we have not paid adequate attention to the "back room" personnel—in the laboratories and in the drawing and design offices. The stage has now been reached when greater attention has to be paid to these aspects.

16. *Japanese example.*—Japan is an example of a country which has very liberally imported technical know-how and also rapidly developed her own research and development. Having, for instance, originally imported petro-chemical know-how from abroad, within the course of a few years, she is now herself in a position to impart fresh know-how to the former very citadels of petro-chemical know-how. The Committee also understands that Japan normally avoids repetitive import of know-how. The remarkable achievements of Japan in the liberal import of foreign know-how and the very rapid development of indigenous know-how is in the Committee's view, well-worth a detailed study. The Committee has not been able to obtain adequate information regarding this here and accordingly recommends that Government should arrange for a detailed study of the policies followed by Japan in this field.

17. *Role of the public sector.*—It is hardly necessary for this committee to refer to the important role that the public sector can play in the process of fostering the development of indigenous know-how and design engineering services. Shri G. L. Mehta, Chairman, Indian Investment Centre, while giving evidence, before the Committee, mentioned that the ICICI, with which he had been associated, had supported a number of ventures involving the exploitation of new processes based on indigenous technology as well as the use of indigenous raw materials. He stated that their experience in this matter had not been uniformly favourable but that some risks had to be taken if we are to encourage indigenous technology. In the matter of the establishment of design and engineering services also, the public sector could well serve as a model.

18. *Need for liberal approach to foreign collaboration in the case of export-oriented industries.*—In respect of industries which are substantially export-oriented, the Committee would like to stress that a liberal approach in regard to foreign collaboration would be worth while. The question of international standards is of paramount importance in conection with our need to expand our export markets. A joint venture arrangement is often able to ensure that the Indian manufacturer has access to the foreign collaborators' established overseas net work of distributors and agents.

19. *Summary of Recommendations.*—The following are the principal recommendations of the Committee :—

(i) Need for a positive approach to the problem of import of know-how, particularly of process know-how or product design. Distinction between the well established industries and the newer and more sophisticated industries (Paras 4.3, 4.4 and 4.5).

(ii) Generally speaking, in industries where substantial import of capital goods is involved and where government's policy allows foreign capital participation, joint ventures involving foreign equity participation are more beneficial (Para. 6).

(iii) Considerations to be taken into account in assessing the suitability of indigenous know-how. (Para. 7.1).

(iv) Need for prior discussion between D.G.T.D. and C. S. I. R. regarding need for foreign collaboration and terms thereof—unresolved difference of opinion to be promptly brought up before the Foreign Agreements Committee. (Para. 7.3).

(v) Constitution of Technical Research Committees and the role to be played by them. (Para 7.4).

(vi) Limitations of indigenous know-how. Need for design and engineering consultancy services and provision of risk capital (Paras. 8.1 & 8.2).

(vii) Action to be taken by C.S.I.R. to generate confidence in industry regarding indigenous know-how—Role of the National Research Development Corporation (Para. 9).

(viii) Need for a Central Co-ordinating Unit to watch the progress of the disposal of applications for foreign collaboration—Cases remaining undisposed of for 3 months to be brought up for consideration by the Foreign Agreements Committee. (Para. 11).

(ix) No rigid rule to be followed in the matter of the duration of technical collaboration agreements; normally the duration of the original agreement should be between 5 to 10 years from commencement of production. (Para. 12).

(x) Avoidance of repetitive import of technology—Existing units to be encouraged to give know-how to consultancy firms—Fiscal incentives to existing units which pass on their know-how to others. (Paras. 13.1 & 13.2).

(xi) Need of greater stress on research and development—Fiscal incentives for encouraging research and development—Role of Industrial Associations. (Paras 14.1 & 14.2).

(xii) Need for further development of design and consultancy services to fill existing gaps. (Para. 15.1).

(xiii) Need for a detailed study of the Japanese example of combining liberal import of know-how with rapid development of indigenous research and know-how. (Para. 16).

(xiv) The useful role which the Public Sector can play. (Para. 17).

(xv) Special approach to foreign collaboration in the case of export-oriented industries. (Para. 18).

20. *Acknowledgements.*—The Committee wishes to place on record its deep appreciation of the assistance rendered by the various Chambers of Commerce and Industry and of individual industrialists who submitted memoranda to the Committee and also gave oral evidence before the Committee.

The other members of the Committee wish specially to place on record the very valuable assistance which it received from the Member-Secretary, Mr. K. J. George, whose knowledge and experience of the licensing system and of the examination of foreign collaboration agreements, helped the Committee very considerably in its work.

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P. C. KAPOOR
K. J. GEORGE

APPENDIX

Chambers of Commerce and Industry whose representatives met the Committee on Foreign Collaboration

1. The Indian Chamber of Commerce, Calcutta.
2. The Engineering Association of India, Calcutta.
3. The Indian Engineering Association, Calcutta.
4. The Indian Chemical Manufacturers Association, Calcutta.
5. The Bengal Chamber of Commerce & Industry.
6. The Bombay Chamber of Commerce & Industry, Bombay.
7. Organisation of Pharmaceutical Products of India, Bombay.
8. The Atul Products Ltd., Ahmedabad.
9. The Madras Chamber of Commerce & Industry.
10. The Southern India Chamber of Commerce.
11. Andhra Chamber of Commerce.
12. The Indian Investment Centre.

Individuals

1. Shri R. V. Ramani of Mettur Chemical & Industrial Corporation Ltd., Madras.
2. Shri D. C. Kothari of Kothari Textiles Ltd., Madras.
3. Shri J. H. Doshi of Amar Dye Chem. Ltd., Bombay.

The Committee also received a written Memorandum from the Federation of Indian Chambers of Commerce and Industry, New Delhi.

सत्यमेव जयते

GOVERNMENT OF INDIA

MINISTRY OF INDUSTRIAL DEVELOPMENT AND COMPANY AFFAIRS

(Department of Industrial Development)

New Delhi, the 16*th September,* 1967
25*th Bhadra,* 1889

RESOLUTION

Committee on Foreign Collaboration

No. IP&FC-5(I)/66.—In their Office Memorandum No. IP&FC-5(1)/66 dated the 19th February, 1966, the Government of India in the late Ministry of Industry constituted a Committee, under the Chairmanship of Dr. A. Ramaswami Mudaliar, to recommend to Government general guide lines regarding the utilisation of indigenous know-how and the types of cases in which foreign collaboration may be allowed. The terms of reference were :

(a) to examine the extent to which, at the present stage of our economic development, import of technical know-how from abroad can be dispensed with ;

(b) to examine the general conditions subject to which indigenous know-how can be deemed to be capable of commercial exploitation ; and

(c) to suggest general guide lines regarding the type of cases in which foreign collaboration may be allowed.

2. The Committee in its report, submitted on the 4th May, 1967, has made the following main recommendations :

(i) A positive approach is needed to the problem of import of know-how, particularly of process know-how or product design. A distinction may be made for this purpose between the well-established industries and the newer and more sophisticated industries.

(ii) Generally speaking, in industries where substantial import of capital goods is involved and where Government's policy allows foreign capital participation, joint ventures involving foreign equity participation are more beneficial. as compared to other forms of collaboration.

(iii) Some of the basic questions which should be taken into account in assessing the suitability of indigenous know-how are :

  (a) Has the indigenous know-how been commercially processed or is at least capable of commercial exploitation within a reasonably short period ?

(b) Is the know-how economical from the point of view of the investor and from the national point of view ?

(c) Is it likely to be made available to the new entrepreneur or is the know-how available only to another existing manufacturer, who is reluctant to part with the know-how to a competitor ?

(iv) There is need for prior discussion between the Directorate General of Technical Development and the Council of Scientific and Industrial Research regarding need for foreign collaboration and terms thereof. Unresolved differences of opinion should be promptly brought up before the Foreign Agreements Committee.

(v) The Technical Research Committees to be set up pursuant to the recommendations of the 'First get Together' on Research and Industry held in December, 1965 should play an important role. In particular, these Committees will undertake studies, wherever appropriate, of the comparative merits of different types of know-how in the light of Indian conditions and raw material availability.

(vi) Taking into consideration the limitations of indigenous know-how, there is need for an independent Corporation, such as the National Research Development Corporation, which should ensure the availability of design and engineering services and provide the risk capital for the entrepreneurs taking up commercial development of indigenous know-how. The National Research Development Corporation should play a vital role in generating confidence in industry and in providing risk and development capital besides its present activity of licensing of the know-how developed in the Council of Scientific and Industrial Research and other Government laboratories.

(vii) The Council of Scientific and Industrial Research should take action to generate confidence in industry regarding indigenous know-how. The Committee has recommended various steps which should be taken in order to enable the National Research Development Corporation to play the role for which it was set up.

(viii) There is need for a Central Co-ordinating Unit in the Ministry of Industrial Development & Company Affairs to watch the progress of the disposal of applications for foreign collaboration. Cases remaining undisposed of for 3 months should be promptly brought up for consideration by the Foreign Agreements Committee, even if they fall within the purview of the delegated powers of Ministries.

(ix) No rigid rule should be followed in the matter of the duration of technical collaboration agreements; normally, the duration of the original agreements should be between 5 to 10 years from commencement of production.

(x) On the question of avoidance of repetitive import of technology, it is neither practicable nor desirable to resort to any sort of compulsion on existing manufacturers to part with their know-how. It would be more appropriate to consider the likelihood of an existing unit giving the process know-how or product design to a consultancy firm on the basis of a negotiated agreement. Fiscal incentives should be given to existing units which pass on their know-how to others.

(xi) There is need for greater stress on research and development. Fiscal incentives should be provided for encouraging research and development. The industry should be given corporate tax relief to the extent of double the expenditure on research and development as well as a liberal treatment in regard to provision for foreign exchange for import of essential instruments and equipment for research laboratories.

(xii) There is need for further development of design and consultancy services to fill existing gaps.

(xiii) Government should arrange for a detailed study of the policies followed by Japan in the matter of combining liberal import of know-how with the rapid development of indigenous research and know-how.

(xiv) The Public Sector can play a useful role in the process of fostering the development of indigenous technical know-how and design and engineering services.

(xv) A liberal approach would be worthwhile in regard to foreign collaborations in the case of substantially export-oriented industries.

3. *Government's decision on the Committee's recommendations.*

Government, after careful consideration, accepts in general the above recommendations of the Committee, subject to the observations made below. Government would also like to reiterate in this context the importance of encouraging the utilisation of indigenous know-how and of giving, within the limits practicable, some incentives and special facilities to those who are desirous of using indigenous know-how, particularly in regard to facilities of importing essential equipment and raw materials.

Recommendation No. (ii)

It is necessary to emphasise the view, to which the Committee has also given expression, that in the case of processes which are long-established and are unlikely to be overtaken in the near future by technological obsolescence, out right purchase of design, know-how etc. would be more advantageous than capital participation.

Recommendation No. (ix)

While accepting this recommendation, Government considers that in the matter of extension of existing agreements, a stricter approach than has hitherto been followed should be adopted.

Recommendation No. (x)

In respect of processes where the know-how payments are very high and particularly in the chemical industries the number of collaborations could be even more restricted than the five or six envisaged by the Committee. In respect of private consultancy organisations which are allowed to import the know-how for being passed on to others, suitable conditions will have to be imposed to ensure that other parties are able to receive the know-how on reasonable terms.

Recommendation No. (xi)

The suggestion that Government should give corporate tax relief to the extent of double the expenditure on research and development is not acceptable in principle and may also lead to abuse. Government agree to the suggestion about liberal treatment in regard to provisions for foreign exchange for import of essential instruments and equipment for research laboratories.

Recommendation No. (xv)

It is desirable that the expression "substantially export-oriented" should be defined. In the case of industries which are well-established in the country and where foreign collaboration is normally not allowed, the export should be of the order of about 75%. In other cases, the quantum of exports to qualify for this special treatment may be left to be decided on the merits of each case.

ORDER

Ordered that a copy of the Resolution be communicated to all concerned.

Ordered also that the Resolution be published in the Gazette of India, for general information.

N. N. WANCHOO
Secretary to the Government of India.

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